Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-20 (canceled)

21. (new) A method for imaging a three-dimensional object comprising the steps of:

(a) illuminating an object with radiation at a wavelength to form a reflected image beam;

(b) providing a reference beam comprising the wavelength;

(c) recording an interference pattern between the reference beam and the image beam;

repeating steps (a)-(c) at a succession of different wavelengths separated by a predetermined wavelength step;

computing a holographic image from the interference pattern for each wavelength;

adding the holographic images together to form an intensity distribution pattern;

extracting out a series of two-dimensional cross-sectional images from the intensity distribution pattern;

correcting microscopic image distortion in the cross-sectional images; and

reassembling the cross-sectional images into a three-dimensional model of the object.

22. (new) The method recited in claim 21, wherein the illuminating step comprises illuminating the object with coherent radiation.

23. (new) The method recited in Claim 22, further comprising the step of expanding the coherent radiation prior to the illuminating step.

24. (new) The method recited in Claim 21, wherein the predetermined wavelength step comprises a function of an axial scale of the object.

25. (new) The method recited in Claim 21, further comprising the step of subtracting a zero-order intensity from each computed holographic image prior to the adding step.

26. (new) A method for imaging a three-dimensional object comprising the steps of:

(a) illuminating an object with radiation at a wavelength to form a reflected image beam;

(b) providing a reference beam comprising the wavelength;

(c) recording an interference pattern between the reference beam and the image beam;

(d) recording an image of the object only; and

(e) recording an image of the reference beam only;

repeating steps (a)-(e) at a succession of different wavelengths separated by a predetermined wavelength step;

computing a holographic image from the interference pattern for each wavelength;

subtracting a zero-order intensity from each computed holographic image, wherein the subtracting step comprises subtracting the object-only and reference-beam-only images from the interference pattern; and

adding the holographic images together to form an intensity distribution pattern.

27. (new) The method recited in claim 26, wherein the computing step comprises calculating a holographic image field at each wavelength using a Fresnel diffraction formula.

28. (new) A method for imaging a three-dimensional object comprising the steps of:

(a) illuminating an object with radiation at a wavelength to form a reflected image beam;

(b) providing a reference beam comprising the wavelength;

(c) recording an interference pattern between the reference beam and the image beam;

repeating steps (a)-(c) at a succession of different wavelengths separated by a predetermined wavelength step;

computing a holographic image from the interference pattern for each wavelength; and

adding the holographic images together to form an intensity distribution pattern, wherein the object comprises two two-dimensional objects positioned different distances from a source of the radiation, and further comprising the step of extracting out two two-dimensional cross-sectional images from the intensity distribution pattern, each image representative of one of the objects.

29. (new) The method recited in claim 28, wherein the extracting step comprises encoding the Fresnel diffraction as a function of a Fourier transform with respect to radiation wavelength.